Washington State Department of Health

ELABORATIONS

News and Issues for Washington's Clinical Laboratories

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Proficiency Testing - Time to Enroll for 2006

by Leonard Kargacin, Lori Hudson, DOH LQA

Proficiency testing (PT), as required under Medical Test Site rules 246-338-050, is a source of external quality control. Although labs perform daily internal quality control with their test systems, external quality control provides important interlaboratory comparisons to determine the accuracy and reliability of your testing procedures.

Now is the time to enroll in PT to be sure you receive PT samples in 2006. A listing of the currently approved PT programs can be found on page 4. Call the programs for a free copy of their 2006 PT brochure or visit their websites. Your current PT provider will automatically send you a PT order form and catalog for 2006. Remember, if you do not enroll quickly, you will not be guaranteed to receive samples for the first testing event that occurs between January-March 2006 and will receive 0% for non-participation. This is a failure, and may jeopardize your ability to continue testing patient specimens.

- Shop around for prices and test groups.
- Enroll in more than one company, if necessary, to cover all tests.

Information needed to enroll: Complete the 2006 Order Form in the PT brochure with the following information:

- Name (use the NAME **exactly** as it appears on your MTS license)
- Address
- CLIA ID # (primary means of identifying your lab)
- MTS license number (see your MTS license)
- Select the appropriate program for your lab (you may have to enroll in several modules and/or companies to cover all analytes)

NOTE: Indicate on the enrollment form that copies of your PT results must be sent to the Office of Laboratory Quality Assurance. **This must be done for each analyte!**

Inside This Issue

Regulated analytes:

- Regulated analytes must be covered by five sample modules shipped three times per year.
- A listing of the regulated analytes can be found on the LQA website (www.doh.wa.gov/lqa.htm).
- Don't forget that **non-waived** tests for Influenza A and B, and Direct Strep Antigen must be covered by PT.
- Some manufacturers of waived tests allow laboratories to choose if they want to perform the test as a waived test following the waived test requirements or as a moderate complexity test following these requirements. If the laboratory chooses to perform the test as a moderate complexity test, it **mus**t participate in a **5-sample PT program three times per year.**

Non-regulated analytes: All non-waived tests other than the regulated analytes must be tested using one or a combination of the following:

- A two-sample PT program from one of the proficiency testing providers, or
- Blind samples with known values, or
- Split samples with another lab, or
- Split samples with another instrument or method, or

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Practice Guidelines

The following practice guidelines have been developed by the Clinical Laboratory Advisory Council. They can be accessed at the following website:
www.doh.wa.gov/lqa.htm

Anemia	PAP Smear
ANA	Point-of-Care Testing
Bioterrorism Event Mgmt	PSA
Bleeding Disorders	Rash Illness
Chlamydia	Red Cell Transfusion
Diabetes	Renal Disease
Group A Strep Pharyngitis	STD
Hepatitis	Thyroid
HIV	Tuberculosis
Infectious Diarrhea	Urinalysis
Intestinal Parasites	Wellness
Lipid Screening	

Proficiency Testing, continued from page 1

- Two analysts perform microscopic tests and compare results, or
- Kodachromes of microscopic tests, or
- Correlate patient results with clinical history.

Adding tests during the year:
- Notify our office within 30 days.
- Enroll in PT for regulated analytes before you start testing patient samples.

Deleting tests during the year:
- Notify our office within 30 days.

Temporarily discontinuing tests during the year:
- Notify our office that the test was temporarily discontinued.
- Indicate on PT form that test was not performed for this event using the code listed in your PT material.
- Notify our office when the test is reinstated.

LQA website: The LQA website contains additional information regarding proficiency testing, applications, licensing, practice guidelines, surveys and checklists, medical test site rules and much more. The website address is: http://www.doh.wa.gov/lqa.htm.

If you have other questions regarding proficiency testing, contact Leonard Kargacin at (206) 418-5416.

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Website addresses:
DOH home page: http://www.doh.wa.gov
LQA home page: http://www.doh.wa.gov/lqa.htm
PHL home page:
http://www.doh.wa.gov/EHSPHL/PHL/default.htm

TIPS for Proficiency Testing Success

Improve your chances for successful participation in PT by considering the following suggestions:

√ **Release Results:** Notify PT provider that copies of PT results for **each** analyte are to be sent to the Office of Laboratory Quality Assurance.

√ **Handle PT samples like patient samples:** Don't run them multiple times.

√ **Retain all raw data:** Save data showing the workup of PT samples, instrument printouts, worksheets, log sheets.

√ **Make sure all testing personnel perform PT during the year:** Share or rotate the samples among all staff who perform the test.

√ **Fill in the Method Code:** Do not leave blank.

√ **Correctly report the reason PT was not done:** If you are unable to test for some reason, indicate this on the answer sheet. If you discontinued testing for an analyte, indicate this on the sheet. Immediately notify LQA of any change.

√ **Be timely:** Always be sure to meet the deadline for returning your results.

√ **Review your graded results:** Review your graded PT results with your lab director. Document corrective action for scores below 80%. Evaluate ungraded results.

CMS Approved Cytology PT Programs for 2006

College of American Pathologists (CAP)
1-800-323-4040
http://www.cap.org/apps/cap.portal
Gynecologic Cytology PT Program
PAP PT

Midwest Institute for Medical Education (MIME)
1-866-678-6463

State of Maryland Cytology PT Program
(for laboratories in Maryland only)

What *Are* Chemical Terrorism Agents, Anyway? Part 3 – Lung-Damaging Agents

by Cate Franklin, PhD, DOH/PHL

This is the third in a series of articles describing chemical warfare agents and available clinical methods for identifying and quantifying exposure.

Lung damaging (choking, irritant) agents are materials that act on the respiratory tract and lead to lung edema and/or asphyxiation. Those most considered potential terrorism agents are ammonia, chlorine, and phosgene gasses. Other types of lung damaging agents may be dusts such as asbestos, or dusts contaminated with allergens, fungal spores, pollens, or mycotoxins. This article will focus on lung-damaging gasses.

Chlorine gas (Cl_2) was used as a chemical weapon in World War I. Phosgene gas (Cl_2CO) and chlorine/phosgene mixtures were also used. Chlorine and phosgene are heavier than air (about 2.5 and 4 times, respectively) and effectively sank into the trenches, incapacitating large numbers of combatants. The development and introduction of gas masks reduced the effectiveness of these gasses as chemical weapons, which led to the use of diphosgene, a liquid combination of phosgene and chloroform. Diphosgene rapidly vaporized to phosgene and chloroform. The chloroform component destroyed the filtering ability of the gas masks. Phosgene munitions were prepared for use, but not deployed, during World War II.

The relative toxicity of lung-damaging agents depends on several factors, including the age of the exposed person, the amount of exposure, and the water solubility of the agent. Respiratory irritant gasses cause pulmonary tissue injury, the site of which is generally dependent on the water solubility of the gas and the degree of exposure. Chlorine dissolves in mucosal water to form hydrochloric and hypochlorous acids; ammonia dissolves in water to form ammonium hydroxide. Injury may also occur to the eyes and skin from the strong caustics and corrosives formed during water hydrolysis.

Gasses which are very water soluble, such as ammonia (NH_3) and formaldehyde (H_2CO), are usually extremely irritating even in low concentrations and cause the most injury in the upper airways, leading to laryngeal edema, and to the nose and eyes. These have good warning properties since the natural reaction of an exposed person is to get away from the cause of the eye and throat irritation.

Gasses that have limited water solubility, such as phosgene and ozone (O_3), are generally not irritating to the eyes and throat even at significant exposures and thus have poor warning properties. Because the gas is not significantly trapped by dissolving in the moist areas of the upper respiratory tract, and because there may be a large degree of exposure due to the poor warning properties, higher concentrations reach the alveoli and lead to delayed onset of pulmonary edema. Clinical evidence of exposure may not be evident for up to 48 hours after the exposure has occurred.

Chlorine is an example of a gas with medium water solubility and moderate warning properties. It damages both the upper and lower respiratory systems, with the location and degree of damage being dose-dependent. Exposure to low concentrations may give few symptoms of irritation, and that which is noticed is generally irritation of the eyes, nose, and throat. Exposure to high concentrations leads to rapid irritation of mucosal tissue followed by airway constriction and pulmonary edema.

There are no biologic markers for most of these agents. Ammonia is a waste product produced during normal metabolism which is converted to urea by the liver. Direct measurement of blood ammonia levels is not generally useful in determining exposure since there is no “normal” or reference level of blood ammonia.

Approved PT Providers

Accutest (800) 356-6788
http://www.digitalpt.com

Amer. Acad. of Family Physicians (800) 274-7911
http://www.aafp.org/pt.xml

Amer. Assoc. of Bioanalysts (800) 234-5315
http://www.aab.org/

American Proficiency Institute (800) 333-0958
http://www.api-pt.com/

ASIM Medical Lab Evaluation (800) 338-2746
http://www.acponline.org/mle/

California Thoracic Society (714) 730-1944
http://www.thoracic.org/chapters/california/

College of American Pathologists/EXCEL
(800) 323-4040
http://www.cap.org/apps/cap.portal

WSLH (800) 462-5261
http://www.slh.wisc.edu/pt/

For answers to your PT questions, go to the LQA website at www.doh.wa.gov/lqa.htm or call Leonard Kargacin at (206) 418-5416.

Calendar of Events

PHL Training Classes:
(http://www.doh.wa.gov/EHSPHL/PHL/train.htm)

The 2006 PHL Training Program class schedule will be available on the above website in the near future.

2006 WSSCLS/NWSSAMT Spring Meeting
April 20-22, 2006 Seattle

2006 Northwest Medical Laboratory Symposium
October 18-21, 2006 Portland

13th Annual Clinical Laboratory Conference
November 2006 Seattle

Contact information for the events listed above can be found on page 2. The Calendar of Events is a list of upcoming conferences, deadlines, and other dates of interest to the clinical laboratory community. If you have events that you would like to have included, please mail them to ELABORATIONS at the address on page 2. Information must be received at least one month before the scheduled event. The editor reserves the right to make final decisions on inclusion.

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